REMARKS

The Applicant and the undersigned thank Examiner Desire for his time and consideration given during the telephonic interview conducted on October 4, 2005. The Applicant also appreciates Examiner Desire's careful review of this application. Claims 1-31 have been rejected. Upon entry of this amendment, Claims 1-31 remain pending in this application.

The independent claims are Claims 1, 16, 17, 19, and 21-23. Consideration of the present application is respectfully requested in light of the above amendments to the application and in view of the following remarks.

Summary of Telephonic Interview of October 4, 2005

The Applicant and the undersigned thank Examiner Desire for his time and consideration given during the telephonic interview of October 4, 2005. During this telephonic interview, a proposed amendment to the claims was discussed. The Applicant provided the proposed amendment to the claims in advance of the interview.

The Applicant's representative explained that the prior art of record, especially U.S. Patent No. 6,445,822 issued in the name of Crill et al. (hereinafter the "Crill reference"), does not provide any teaching of determining if any target object in the database is confusingly similar with the known object by using computer vision software that compares a digital model in computer memory comprising a mathematical template associated with pixels that are based on a full-size of the known object with a matrix of numbers derived from pixels.

Opposite to using computer vision software that compares a digital model in computer memory comprising a mathematical template, the Crill reference uses hardware and optics to make comparisons of a known object with a target object.

Examiner Desire requested that the undersigned direct him to the sections of the originally filed application that supports the amended claims. The undersigned directed Examiner Desire to page 28, the second full paragraph, of the original application.

Examiner Desire acknowledged the differences between the Crill reference and the Applicant's proposed amended claims. Examiner Desire indicated that an update search would need to be conducted if the Applicant formally submits the amendment.

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The Applicant and the undersigned request the Examiner to review this interview summary and to approve it by writing "Interview Record OK" along with his initials and the date next to this summary in the margin as discussed in MPEP § 713.04, p. 700-202.

Claim Rejections under 35 U.S.C. §§ 102(e) and 103(a)

The Examiner rejected Claims 1, 4, 6, 12, 14, 15, and 29 under 35 U.S.C. §102(e) as being anticipated by the Crill reference. The Examiner rejected Claims 2, 3, 13, 16-25, 27, and 31 under 35 U.S.C. § 103(a) as being obvious in view of the Crill reference in view of U.S. Patent No. 6,161,109 issued in the name of Matamoros et al. (hereinafter the "Matamoros" reference). The Examiner rejected Claim 5 under 35 U.S.C. § 103(a) as being obvious in view of the Crill reference in view of U.S. Patent No. 6,463,426 issued in the name of Lipson et al. (hereinafter the "Lipson" reference).

The Examiner rejected Claims 7-11 under 35 U.S.C. § 103(a) as being obvious in view of the Crill reference in view of U.S. Patent No. 6,271,840 issued in the name of Finseth et al. (hereinafter the "Finseth" reference). The Examiner also rejected Claim 28 under 35 U.S.C. § 103(a) as being obvious in view of the Crill and Matamoros references in view of the Lipson reference. The Examiner further rejected Claim 30 under 35 U.S.C. § 103(a) as being obvious in view of the Crill and Matamoros references in view of the Finseth reference.

The Applicant respectfully offers remarks to traverse these pending rejections. The Applicant will address each independent claim separately as the Applicant believes that each independent claim is separately patentable over the prior art of record.

Independent Claim 1

The rejection of Claim 1 is respectfully traversed. It is respectfully submitted that the Crill, Matamoros, Finseth, and Lipson references fail to describe, teach, or suggest the combination of (1) searching a database for target objects; (2) providing a known object comprising an image; (3) determining if any target object in the database is confusingly similar with the known object (4) by using computer vision software that compares a (5) digital model in computer memory comprising a mathematical template associated with pixels (6) that are based on a full-size of the known object with a (7) matrix of numbers

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derived from pixels associated with at least one of (8a) a full-size of the target object, (8b) a scaled version of the entire target object, and (8c) a portion of the target object, (9) the full-size of the known object comprising a complete area of pixels of the known object., as recited in amended Claim 1.

The Crill reference:

The Crill reference describes an optical system 620 that may form part of the optical correlation system 220 or the computer 202. The optical system 620 may be a separate and distinct component locally or remotely connected to either the optical correlation system 220 or the computer 202. See Figure 14 of the Crill reference illustrated below that describes on embodiment of the optical system 620.

FIG. 14
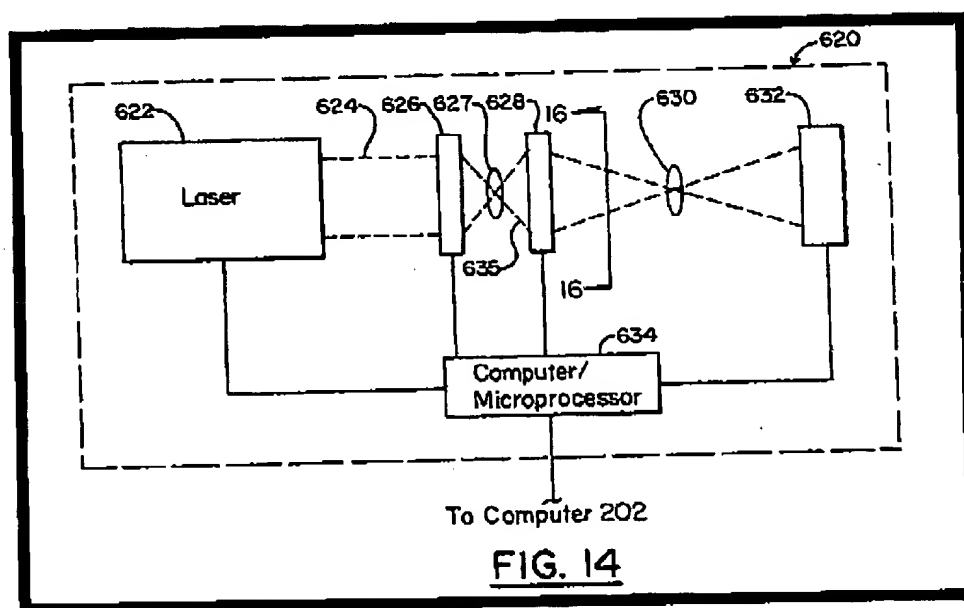
The optical system 620 includes a laser or other light source 622 which produces a coherent laser or light beam 624. The laser or light source 622 can be identical to the laser or light source 254 previously described above. The light beam 624 shines on, passes through, or reflects off of the spatial light modulator 626. A lens, 627, focuses the image from the spatial light modulator 626 onto a programmable or other controllable filter, mask, or spatial light modulator 628 before passing through the Fourier transform

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lens 630 and reaching the CCD camera, detector, array, photodiode or other device 632. A computer, microprocessor, or other controller 634 preferably controls the operation of some are all of the laser 622, the spatial light modulator 626, the filter, mask, or spatial light modulator 628, and the device 632, as will be discussed in further detail below.

The filter, mask, or spatial light modulator 628 can block some or all of the light or laser beam 635 from further passing or propagating through the Fourier transform lens 630, thereby blocking or otherwise preventing some of the light passing through the image created on the spatial light modulator 626 from reaching the lens 630.

One of ordinary skill in the art recognizes that the Crill reference is a hardware or optical solution for comparing images and not a software one. Meanwhile, as recited by amended independent Claim 1, the Applicant's invention uses computer vision software that compares a digital model in computer memory comprising a mathematical template associated with pixels that are based on a full-size of the known object with a matrix of numbers derived from pixels associated with the target object.
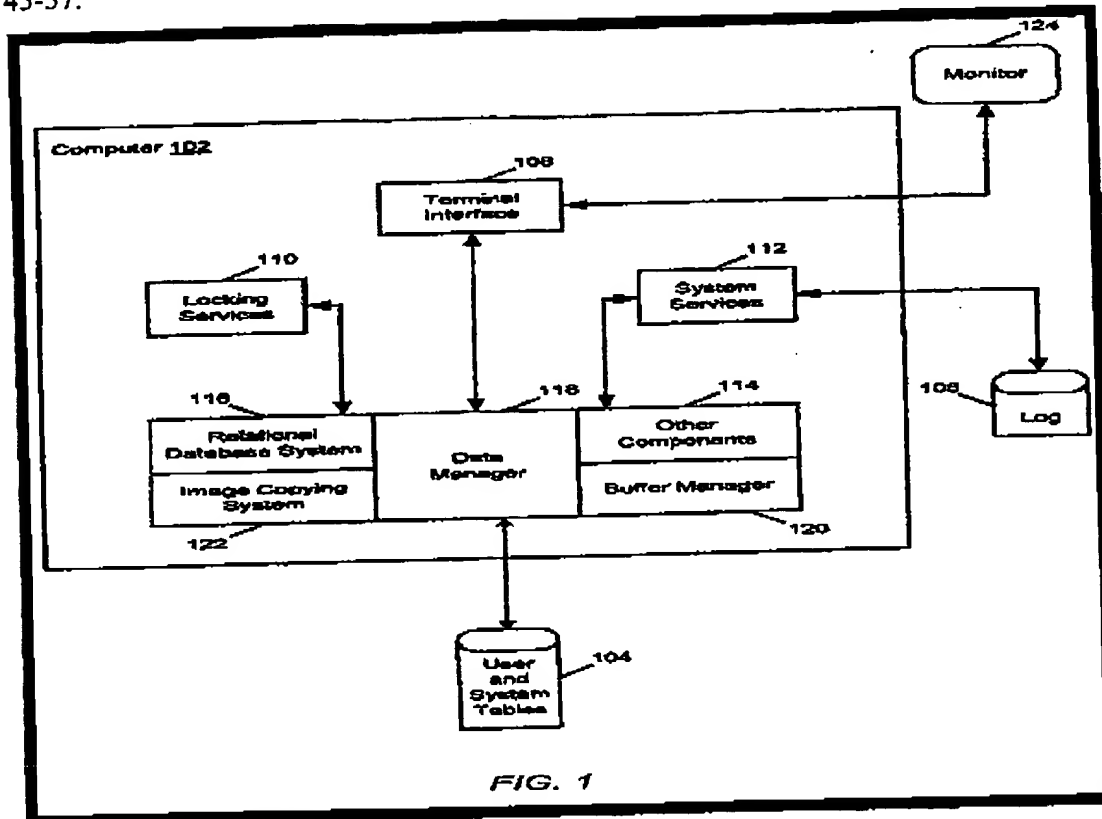
Matamoros Reference

The Examiner admits that the Crill reference does not provide any teaching of storing duplicated objects to produce stored duplicated objects as recited in dependent Claim 2. To make up for a duplicating objects deficiency of the Crill reference, the Examiner relies upon the Matamoros reference.

The Examiner refers the Applicant to Figure 1, functional block 122, in which the Examiner alleges that the Matamoros reference provides a teaching of duplicating and storing images from a database. However, the Applicants point out that one of ordinary skill in the art recognizes that the "image copy" language listed in functional block 122 of the Matamoros reference is not referring to "images" in the graphics sense or graphical object meaning of the word.

Instead, the term "image copy" as used in the Matamoros reference is defined as a "secondary" copy of a database. Specifically, the Matamoros reference describes an image copying system 122 in conjunction with a data manager 118 that provides a technique for determining which data from a database has been modified and should be copied from an "original" or "primary" copy on primary storage device to update an

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"image" or "secondary" copy on a secondary data storage for use as a backup copy device. See Figure 1 of the Matamoros reference reproduced below, and column 4, lines 45-57.


FIG. 1

Therefore, one of ordinary skill in the art recognizes that the Matamoros reference does not relate in any way to graphical "images" or objects and is not combinable with the Crill reference for the purposes alleged by the Examiner. Even if the Examiner maintains his position with this proposed combination, the Matamoros reference does not make up for the numerous deficiencies of the Crill reference relative to amended Claim 1. For example, the Matamoros reference does not provide any teaching of computer vision software that compares a digital model in computer memory comprising a mathematical template associated with pixels that are based on a full-size of the known object with a matrix of numbers derived from pixels associated with the target object, as recited in amended independent Claim 1.

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Finseth Reference

The Examiner admits that the Crill and Matamoros references fail to provide any teaching of searching the Internet in general and using a web crawler. To make up for this deficiency, the Examiner relies on the Finseth reference.

The Finseth reference describes a visual index process 20 in which a web crawler 32 retrieves web pages by accessing uniform resource locators (URLs) 30. The URLs 30 are provided by a source system or process 22 such as an internet search engine such as Yahoo!! or Google. See Figure 1 of the Finseth reference reproduced below and column 4, lines 25-27; 57-60.

FIG. 1
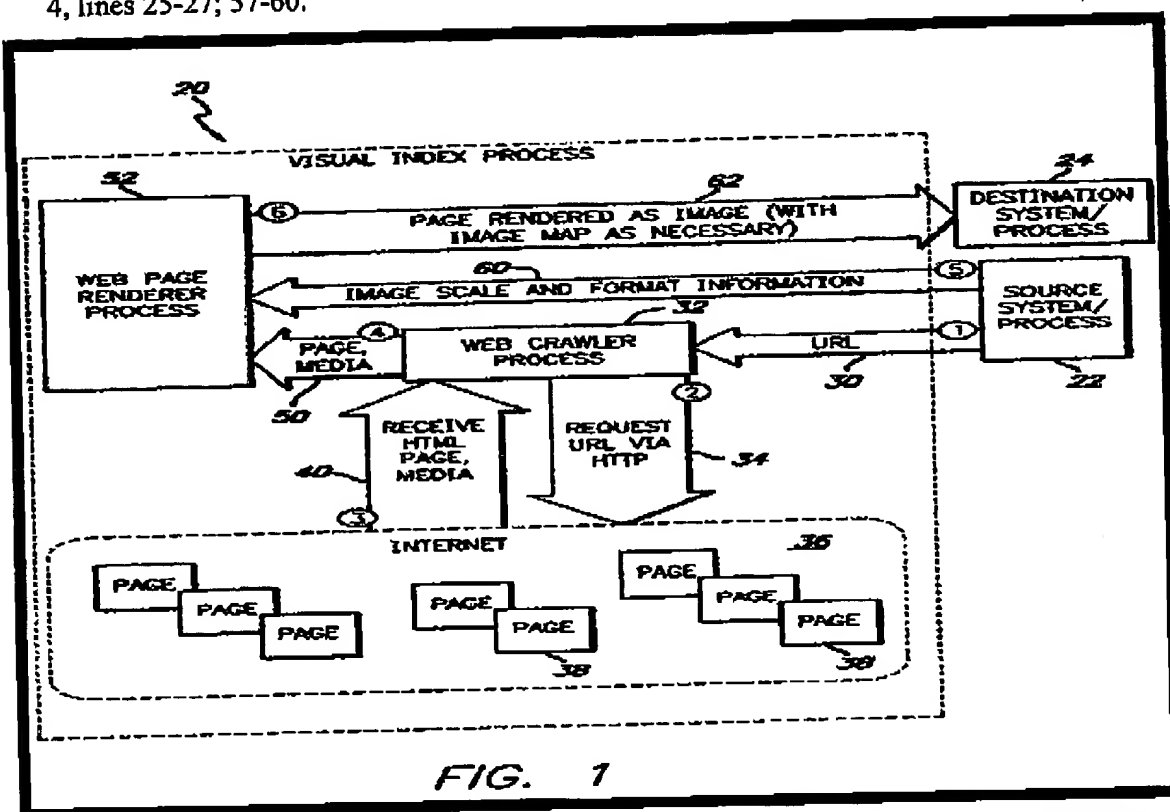
The Finseth reference explains that the web crawler 32 passes the web page information to the web page renderer 52 that transforms the web page information into a scaled image. See the Finseth reference, column 5, line 61 through column 6, line 34. This scaled image can be placed adjacent to the text URL in the destination system or process 24 in which the new index presenting the scaled thumbnail image of a web page and its associated text URL are displayed.

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While the Examiner may allege that the Finseth reference is relevant prior art, the Finseth reference does not make up for the numerous deficiencies of the Crill and Matamoros references. Similar to these two references, the Finseth reference does not provide any teaching of computer vision software that compares a digital model in computer memory comprising a mathematical template associated with pixels that are based on a full-size of the known object with a matrix of numbers derived from pixels associated with the target object, as recited in amended independent Claim 1. Instead, the Finseth reference merely teaches an indexing system that produces thumbnail sized images of web pages.

The Lipson Reference

The Examiner admits that the Crill, and Matamoros references fail to provide any teaching of objects selected from the group consisting of logos, trademarks, servicemarks, and mixtures thereof as recited in dependent Claim 5. To make up for this deficiency, the Examiner relies upon the Lipson reference.

The Lipson reference describes an image analyzer and search engine that may use a process for comparing a primary image 70 and a target image 80. In this process, the primary image 70 and target image 80 are divided into image regions with rows and columns. See Step 42 of Figure 3 and Figures 4 (Primary Image) and Figure 4B (Target Image) of the Lipson reference reproduced below.
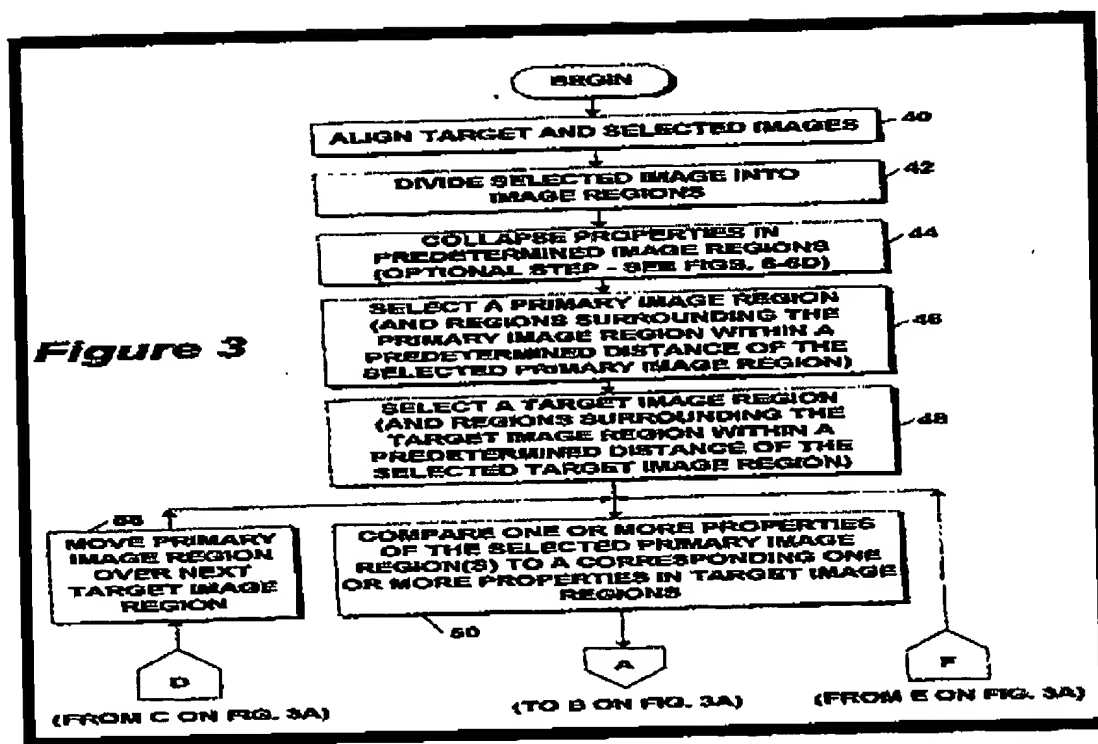
Figure 3

In Steps 46 and 48 of Figure 3 of the Lipson patent, smaller regions 78 and 88 of the larger primary image and target images are selected. In step 50 of Figure 3 reproduced above, the selected regions 78 and 88 that are smaller than the full-size or entire images of the primary and target images 70 and 80 are compared. See Lipson reference, Figure 3, and column 11, lines 55-58.

Figure 4   *Figure 4B*

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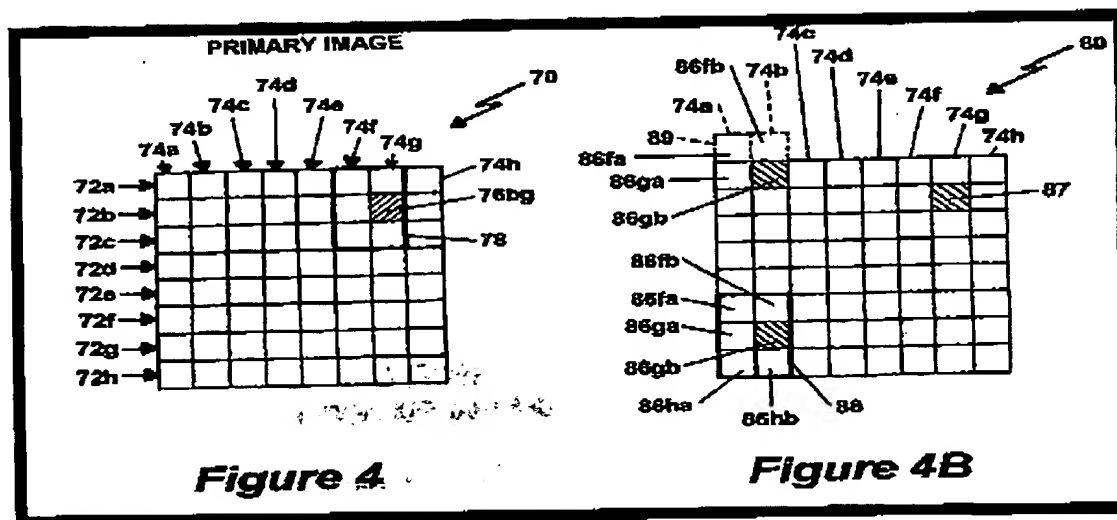
The selected region 78 of the primary image 70 and the selected region of the target image 80 are usually the same size. Both regions 78, 88 are smaller than the entire images 70, 80.

It is noted that Figure 5 of Lipson provides a step 90 that describes a "Match image A to image B to get aggregate score. The detailed description of the Lipson reference explains that the processing performed to match image A to image B is the processing described above with Figures 3-4B. See the Lipson reference, column 16, lines 37-42. In other words, the Lipson does not provide any teaching of comparing a model in computer memory based on a full-size of the known object with a target object, as recited in amended independent Claim 1.

Even if the Examiner's assertion that the Lipson reference describes duplicated objects that include intellectual property such as logos or trademarks, the Lipson reference fails to make up for the numerous deficiencies of the other references relied upon by the Examiner to reject the claims, especially the Crill reference as noted above.

Summary for Independent Claim 1

In light of the differences between Claim 1 and the Crill, Matamoros, Finseth, and Lipson references, one of ordinary skill in the art recognizes that these prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 1. Accordingly, reconsideration and withdrawal of the rejection of Claim 1 are respectfully requested.

Independent Claim 16

The rejection of Claim 16 is respectfully traversed. It is respectfully submitted that the Crill, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) receiving a known object comprising at least one of a logo, a trademark, a service mark, and a combination thereof; (2) searching a database for objects; (3) duplicating the objects from the database to produce duplicated objects; (4) storing the duplicated objects to produce stored duplicated objects; (5) determining if any stored duplicated object is confusingly similar with the known object by using computer vision software that (6) compares a digital model comprising (7) a mathematical template

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associated with pixels of the known object with (8) a matrix of numbers derived from pixels associated with the duplicated object if the known object is formatted as an image and wherein the model is based on a full-size of the known object, (9) the full-size of the known object comprising a complete area of pixels of the known object, and (10) by comparing characters of the known object with the duplicated object if the known object comprises text, as recited in amended Claim 16.

As noted above with respect to independent Claim 1, the Crill, Matamoros, Finseth, and Lipson references do not use computer vision software that compares a digital model in computer memory comprising a mathematical template associated with pixels of the known object with a matrix of numbers derived from pixels associated with the duplicated object.

In light of the differences between Claim 16 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 16. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 17

The rejection of Claim 17 is respectfully traversed. It is respectfully submitted that the Crill, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) means for searching a database for objects; (2) means for duplicating the objects from the database to produce duplicated objects; (3) means for storing the duplicated objects to produce stored duplicated objects; and (4) means for determining if any stored duplicated object is confusingly similar with a known object comprising (5) a face by running computer vision software that compares (6) a digital model in computer memory comprising (7) a mathematical template associated with pixels that are based on the (8) normal size of the known object against at least one of (9a) a normal size of the duplicated object, (9b) a scaled version of the entire duplicated object, and (9c) a portion of the duplicated object, each duplicated object comprising (10) a matrix of numbers derived from pixels associated with the duplicated object, the (11)

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normal size of the known object comprising a complete area of pixels of the known object, as recited in amended Claim 17.

The Crill, Matamoros, Finseth, and Lipson references do not have means for determining if any stored duplicated object is confusingly similar with a known object comprising a face, by running computer vision software that compares a digital model in computer memory comprising a mathematical template associated with pixels that are based on the normal size of the known object against a duplicated object.

In light of the differences between Claim 17 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 17. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 19

The rejection of Claim 19 is respectfully traversed. It is respectfully submitted that the Crill, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) a search engine for searching a database for objects; a duplicator coupled to the search engine for duplicating the objects from the database to produce duplicated objects; (2) a store coupled to the duplicator for storing duplicated objects to produce stored duplicated objects; and (3) determining means, coupled to the store, (4) for determining if any stored duplicated objects is confusingly similar with a known object that comprises an image, (5) including computer vision software that compares (6) a model in computer memory comprising (7) a mathematical template associated with pixels that are (8) based on a full-size of the known object with (9) a matrix of numbers (10) derived from pixels associated with at least one of a (11a) full-size of the duplicated object, (11b) a scaled version of the entire duplicated object, and (11c) a portion of the duplicated object, (12) the full-size of the known object comprising a complete area of pixels of the known object, as recited in amended Claim 19.

The Crill, Matamoros, Finseth, and Lipson references do not teach determining means, coupled to the store, for determining if any stored duplicated objects is confusingly similar with a known object that comprises an image, including computer

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vision software that compares a model in computer memory comprising a mathematical template associated with pixels that are based on a full-size of the known object with a matrix of numbers derived from pixels associated with a duplicated object, as recited in amended Claim 19.

In light of the differences between Claim 19 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 19. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 21

The rejection of Claim 21 is respectfully traversed. It is respectfully submitted that the Crill, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) searching an Internet database for objects with a search engine; (2) duplicating the objects from the database with a duplicator to produce duplicated objects; (3) coupling a store to the duplicator for storing the duplicated objects; (4) accessing the store that stores duplicated objects from the Internet database; and (5) determining if any of the duplicated objects stored in the store are similar with a known object by (6) running computer vision software that compares (7) a digital model in computer memory comprising (8) a mathematical template associated with pixels (9) that are based on a full-size of the known object with a (10) matrix of numbers derived from pixels associated with at least one of a (11a) full-size of the duplicated object, (11b) a scaled version of the duplicated object, and (11c) a portion of the duplicated object, (12) the full-size of the known object comprising a complete area of pixels of the known object, as recited in amended Claim 21.

As noted above with respect to independent Claim 1, the Crill, Matamoros, Finseth, and Lipson references do not determine if any of the duplicated objects stored in the store are similar with a known object by running computer vision software that compares a digital model in computer memory comprising a mathematical template associated with pixels that are based on a full-size of the known object with a matrix of numbers derived from pixels associated with a duplicated object, as recited in Claim 21.

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In light of the differences between Claim 21 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 21. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 22

The rejection of Claim 22 is respectfully traversed. It is respectfully submitted that the Crill, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) determining if any stored duplicated objects each comprising (2) a matrix of numbers (3) derived from pixels and (4) which were duplicated from a database is confusingly similar with a (5) digital model in computer memory by (6) executing computer vision software that compares the (7) digital model to (8) each duplicated object, the digital model comprising (9) a mathematical template associated with pixels (10) that are based on a complete size of a known object of intellectual property that (11) consists of at least one of a logo, trademark, service mark, and a combination thereof, (12) the complete size of the known object of intellectual property comprising a complete area of pixels of the known object, as recited in amended Claim 22.

The Crill, Matamoros, Finseth, and Lipson references do not suggest determining if any stored duplicated objects each comprising a matrix of numbers derived from pixels and which were duplicated from a database is confusingly similar with a digital model in computer memory by executing computer vision software that compares the digital model to each duplicated object, the digital model comprising a mathematical template associated with pixels that are based on a complete size of a known object of intellectual property, as recited in amended Claim 22.

In light of the differences between Claim 22 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 22. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

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Independent Claim 23

The rejection of Claim 23 is respectfully traversed. It is respectfully submitted that the Crill, Matamoros, Finseth, and Lipson references, fail to describe, teach, or suggest the combination of (1) duplicating an object from (2) a database to produce a (3) duplicated object; (4) analyzing the content of the duplicated object to produce (5) a matrix of numbers (6) derived from pixels based on the duplicated object; (7) producing a digital model in computer memory comprising (8) a mathematical template associated with (9) pixels that are from (10) a known object that is based on a (11) full-size of the known object, the full-size of the known object comprising (12) a complete area of pixels of the known object; and (13) comparing with computer vision software the (14) digital model of the known object with (15a) at least one of all of the matrix of numbers, (15b) a portion of the matrix of numbers, and (15c) a scaled version of the matrix of numbers (16) to determine the degree of similarity between the duplicated object and the known object, as recited in amended Claim 23.

The Crill, Matamoros, Finseth, and Lipson references do not compare with computer vision software the digital model in computer memory of the known object with at least one of all of the matrix of numbers, a portion of the matrix of numbers, and a scaled version of the matrix of numbers to determine the degree of similarity between the duplicated object and the known object, as recited in amended Claim 23.

In light of the differences between Claim 23 and the references mentioned above, one of ordinary skill in the art recognizes that the prior art references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 23. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Dependent Claims 2-15, 18, 20, and 24-31

The Applicant respectfully submits that the above-identified dependent claims are allowable because the independent claims from which they depend are patentable over the cited references. Accordingly, reconsideration and withdrawal of the rejections of the dependent Claims 2-15, 18, 20, and 24-31 are respectfully requested.

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CONCLUSION

The foregoing is submitted as a full and complete response to the Non-Final Office Action mailed on July 14, 2005. The Applicant and the undersigned thank Examiner Desire for the consideration of these remarks. The Applicant has submitted remarks to traverse the rejections of Claims 1-31. The Applicant respectfully submits that the present application is in condition for allowance. Such Action is hereby courteously solicited.

If any issues remain that may be resolved by telephone, the Examiner is requested to call the undersigned at 404.572.2884.

Respectfully submitted,

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